

ENVIRONMENTAL LAW & POLICY CENTER

Protecting the Midwest's Environment and Natural Heritage

December 29, 2017

Robert Kaplan Acting Regional Administrator, Region 5 U.S. Environmental Protection Agency 77 W. Jackson St. Chicago, IL 60604

Dear Regional Administrator Kaplan,

We are in receipt of Dynegy Midwest Generation, LLC's ("Dynegy's") December 6, 2017 letter, Notice of Force Majeure Event Concerning Baldwin Unit 1 ("Notice Letter"), attached hereto. In it, Dynegy requests that the U.S. Environmental Protection Agency treat an exceedance of the maximum SO₂ 30-Day Rolling Average Emission Rate at Baldwin Unit 1 in the Consent Decree in United States, et al. v. Illinois Power Company, No. 3:99-cv-833-MJR ("the Consent Decree") as a Force Majeure Event rather than as a violation. To assert the Force Majeure clause is a significant action and warrants careful review by EPA. In this case, the facts asserted fail to demonstrate that there was a Force Majeure Event. Rather, the Notice Letter makes it clear that at least one occurrence in the chain of events leading to the exceedance—Dynegy's careless use of high sulfur coal—could have been prevented. The Notice Letter also leaves many unanswered questions about whether other weak links in the chain were avoidable. Thus, Dynegy's claim amounts to nothing but "Faux Majeure." Because the company has failed to meet its appropriately high burden of demonstrating that a Force Majeure Event occurred, we ask that EPA seek an appropriate amount of penalties in response to Dynegy's violation of the Consent Decree's requirement for Baldwin Unit 1's maximum SO₂ 30-Day Rolling Average Emission Rate.

In 2005, Dynegy entered into the Consent Decree with the United States, the State of Illinois, the American Bottom Conservancy, Health and Environmental Justice – St. Louis, Inc., Illinois Stewardship Alliance, the Prairie Rivers Network, and Illinois Power Company. This Consent Decree was the product of several years of litigation regarding allegations that Dynegy and Illinois Power Company violated the Clean Air Act when they engaged in construction activities without obtaining a Clean Air Act Permit for New Source Review. Entry into this legally binding court document provided a crucial step toward cleaner air in the State. Because emissions from the Dynegy plants subject to the Consent Decree can have a serious impact on public health, the public has a continued interest in ensuring that Dynegy meets the terms of the Consent Decree and that EPA enforces these terms.

Pursuant to this agreement, certain electric generating units owned by Dynegy cannot exceed a maximum SO₂ 30-Day Rolling Average Emission Rate, but may be exempted from this requirement during a Force Majeure Event. Consent Decree Paragraph 66 in part states that each

35 East Wacker Drive, Suite 1600 • Chicago, Illinois 60601 (312) 673-6500 • www.ELPC.org

David C. Wilhelm, Chairperson • Howard A. Learner, Executive Director

Columbus, OH • Des Moines, IA • Duluth, MN • Jamestown, ND • Madison, WI • Sioux Falls, SD • Washington, D.C.



of the units at Baldwin must be operated so as to achieve and maintain a maximum SO₂ 30-Day Rolling Average Emission Rate of no greater than 0.100 lb/mmBtu. However, "Emissions and BTU inputs that occur during a period of Malfunction shall be excluded from the calculation of the 30-Day Rolling Average Emission Rate if [Dynegy] provides notice of the Malfunction to EPA and the State in accordance with Paragraph 138 in Section XV (Force Majeure) of this Consent Decree." Consent Decree ¶ 4(a). According to the Consent Decree, a "malfunction" does not include any "failure[] that [is] caused in part by poor maintenance or careless operation," *Id.* at ¶ 25, and a "Force Majeure Event" must "be caused by circumstances beyond the control of [Dynegy]... despite [Dynegy's] best efforts to fulfill [its] obligation." *Id.* at ¶ 137. Finally, "In any dispute regarding Force Majeure, [Dynegy] shall bear the burden of proving that any... violation of any requirement of this Consent Decree was caused by or will be caused by a Force Majeure Event." *Id.* at ¶ 142.

On December 6, 2017, Dynegy contacted the parties to the Consent Decree claiming that Baldwin Unit 1 had exceeded the Consent Decree's terms due to a Force Majeure Event. According to the Notice Letter, a series of delays in coal delivery led the company to "unknowingly tap[] residual, high sulfur Illinois coal remaining in the coal pile base, which was fed into Baldwin Unit 1's coal bunker" on November 10, 2017. Notice Letter at 2. This high sulfur coal had been present at the station "since circa year 2000," if not longer. *Id.* On the following day, the company ceased to run the unit for several days. *Id.* at 3. When Dynegy eventually brought the unit back online, an equipment failure delayed the startup process, causing the reportable SO₂ 30-Day Rolling Average Emission Rate to reach .101 lb/mmBtu on November 16, 2017. *Id.* at 2-3.

Dynegy's exceedance of the Consent Decree's 30-Day Rolling Average Emission Rate for SO₂ was the product of preventable, careless activities, and the exceedance therefore hardly rises to the level of a Force Majeure Event. According to its own statements, Dynegy tapped into a supply of high sulfur coal that was apparently unmarked or insufficiently marked so as to avoid its being used. This high sulfur coal had been present at Baldwin for at least *seventeen years*. By listing future actions that the company plans to take to prevent the use of high sulfur coal going forward, Dynegy plainly establishes that there were several precautions that it could have taken over the years to prevent its careless operations in the first place. First, the company could have "performed a detailed sampling survey of the coal pile base to determine the extent and location of any remaining areas of high sulfur coal." *Id.* at 5. Second, it could have used the map "to avoid those areas during future coal usage." *Id.* Finally, the company could have used this mapping to "aid in the removal of the high sulfur coal in a controlled fashion by blending low volumes with the [low sulfur] coal supply." *Id.* Thus, Dynegy's use of high sulfur coal at Baldwin Unit 1 could have been prevented, and Dynegy had many years during which it could have taken these preventative measures.

Dynegy has also not met the burden of showing that many of the other breakdowns and lapses that occurred during this time period qualify as malfunctions or Force Majeure as they are defined in the Consent Decree. First, their letter does not make clear that appropriate steps were taken to avoid the breakdown of the railroad culvert that led to the delay in deliveries of low sulfur Powder River Basin ("PRB") coal. Dynegy's assertion that "the culvert had never failed previously" is not the same as saying they took all reasonable precautions to inspect and/or

provide preventative maintenance. *Id.* at 2. Dynegy also failed to establish that it stored an acceptable amount of backup PRB coal on site in case any deliveries ended up getting delayed. Finally, Dynegy argued that boiler feed pumps (BFPs) delayed the start-up of Baldwin Unit 1 once compliant coal became available. *Id.* at 3. Although the company asserted that the BFPs are routinely maintained, it failed to explain how frequently this maintenance occurred and what actions are taken during the maintenance process. This lack of information makes it impossible for others to assess whether they were properly maintained and whether Dynegy could have prevented this failure of the BFPs.

Thus, Baldwin Unit 1's exceedance of the maximum SO₂ emission rate was hardly caused by a Force Majeure Event. Rather, Dynegy could have avoided its careless use of high sulfur coal. The company also failed to demonstrate that its other various missteps were not due to poor maintenance, careless operation, and were outside of the company's control. Dynegy has not met the high burden of asserting Force Majeure, and it therefore is in violation of Baldwin Unit 1's SO₂ 30-Day Rolling Average Emission Rate of 0.100 lb/mmBTU in the Consent Decree. Accordingly, EPA must seek an appropriate amount of penalties from Dynegy that are reflective of the significance of the company's violation and of additional public health and environmental harms due to the increase in emissions.

Sincerely,

Lindsay Dubin

Environmental Law & Policy Center

35 E. Wacker Dr., Suite 1600 Chicago, IL 60601

ldubin@elpc.org

(312) 795-3712

Letter from James R. Kipp, Vice President and General Manager Plant Operations MISO, Dynegy Midwest Generation, LLC, to Plaintiffs in *United States, et al. v. Illinois Power Company*, No. 3:99-cv-833-MJR (Dec. 6, 2017)



DYNEGY MIDWEST GENERATION, LLC 1500 Eastport Plaza Drive Collinsville, IL 62234 618,343,7837

VIA UPS

December 6, 2017

TO: Consent Decree Distribution List

RE:

Notice of Force Majeure Event Concerning Baldwin Unit 1

United States, et al. v. Illinois Power Company, No. 3:99-cv-833-MJR

Consent Decree

Dear Plaintiffs:

In accordance with Paragraph 138 of the Consent Decree, Dynegy Midwest Generation, LLC (DMG) hereby provides notice that Baldwin Unit 1 experienced Force Majeure Events, including Malfunctions, that led to a reportable SO₂ emissions rate value above the SO₂ 30-Day Rolling Average Emission Rate limit of 0.100 lb/mmBtu required by Consent Decree Paragraph 66. The reportable SO₂ 30-day Rolling Average Emissions Rate value¹ in excess of the 0.100 lb/mmBtu limit occurred on November 16, 2017. The reportable SO₂ 30-day Rolling Average Emission Rate was back below the 0.100 lb/mmBtu limit on November 17, 2017. In accordance with Consent Decree Paragraph 4.a's definition of "30-Day Rolling Average Emission Rate," emissions and BTU inputs that occur during a period of Malfunction shall be excluded from the calculation of the 30-Day Rolling Average Emission Rate if DMG provides notice of the Malfunction to EPA and the State in accordance with Consent Decree Paragraph 138. As identified below, with the exclusion of the emissions and BTU inputs that occurred during the Malfunctions of the boiler feed pumps during startup of the Baldwin Unit 1 spray dryer absorber on November 16, Baldwin Unit 1 met the 30-day Rolling Average Emission Rate limit for SO₂.

Consent Decree Requirements

Paragraph 137 of the Consent Decree defines a "Force Majeure Event" to mean "an event that has been or will be caused by circumstances beyond the control of DMG, its contractors, or any entity controlled by DMG that delays compliance with any provision of this Consent Decree . . . despite DMG's best efforts to fulfill the obligation." Paragraph 138 of the Consent Decree further requires DMG to "notify the Plaintiffs in writing as soon as practicable, but in no event later than fourteen (14) business days following the date DMG first knew, or by the exercise of due diligence should have known" that a particular event caused a violation. DMG's notice is required to contain a description of: (i) the cause(s) of the violation and how long DMG expects it to last, (ii) the measures taken and to be taken by DMG to minimize the violation and when those measures were taken (or will be taken), and (iii) DMG's rationale for attributing the delay to a Force Majeure Event. *Id.* DMG is also required to adopt all reasonable measures to avoid or minimize the violation. Paragraph 144 of the Consent Decree identifies

 $^{^{1}}$ SO $_{2}$ emissions are measured with continuous emission monitors (CEM) in accordance with the requirements of the Acid Rain Program, 40 CFR Part 75. See Consent Decree ¶82. As explained infra, for purpose of reporting, the Part 75 regulations require the substitution of measured values when primary measured data is missing or if the Full Scale Range (FSR) of the analyzer is exceeded. Substitution often results in reported values that are much greater than the actual measured value.

"Malfunction of a Unit or emission control device" as a potential Force Majeure Event, and Consent Decree Paragraph 25 defines "Malfunction" to mean any "sudden, infrequent, and not reasonably preventable failure of air pollution control equipment, process equipment, or process to operate in a normal or usual manner. Failures that are caused in part by poor maintenance or careless operation are not Malfunctions." Finally, the Consent Decree (¶142) assigns to DMG the burden of showing that it has given timely notice and that the delay is a result of the Force Majeure Event.

DMG sets forth below the information to demonstrate that Baldwin Unit 1's reportable SO_2 30-Day Rolling Average Emission Rate value slightly above the 0.100 lb/mmBtu limit was caused by Force Majeure Events. The date on which DMG first knew, or by the exercise of due diligence should have known, that the Force Majeure Events caused the exceedance was November 16, 2017. Accordingly, the deadline for submitting this notice (i.e., 14 business days) would be December 7, 2017, and this notice is submitted timely (see ¶168).

(i) The Causes and Length of the Violation

Two related force majeure events caused Baldwin Unit 1's reportable SO_2 30-day Rolling Average Emissions Rate value to exceed the 0.100 lb/mmBtu limit on November 16, 2017 (i.e., on November 16, the reportable SO_2 30-Day Rolling Average Emission Rate reached 0.101 lb/mmBtu). The reportable SO_2 30-day Rolling Average Emission Rate returned to below the 0.100 lb/mmBtu limit on November 17, 2017. See Attachment A. Thus, the duration of the violation was one 30-day rolling period (i.e., October 12, 2017 to November 16, 2017).

The first force majeure event concerned two related circumstances beyond DMG's control that, taken together, delayed the delivery of low sulfur Powder River Basin (PRB) coal to the station and, in turn, resulted in DMG's unknowing use in Baldwin Unit 1 of residual, historic high sulfur coal present in the station's coal pile. Specifically, a culvert under railroad tracks used to deliver coal by train to the station failed and railroad delivery schedules prevented rescheduling of PRB shipments to the station. Due to the occurrence of these related circumstances, the station's coal pile was reduced by 164,000 tons during the relevant period, the equivalent of about ten trains of coal, which resulted in a severely depleted coal inventory. More specifically, on October 25, DMG discovered a failed culvert under the railroad tracks and, as safety precaution, removed the railroad tracks from service. The culvert had never failed previously. An independent inspection from the Canadian National track inspector confirmed that the tracks were unsafe and that the culvert needed repair. The culvert was repaired and the railroad tracks were returned to service on October 28. Although several deliveries of PRB coal arrived once the culvert was replaced, a previously scheduled maintenance outage of the train coal dumper prevented the delivery of PRB coal from November 6th thru November 9th. DMG realized that the station's supply of PRB coal was low and attempted to delay the planned train car dumper maintenance and schedule additional PRB deliveries; however, because the railroad had already diverted the trains based on the scheduled dumper maintenance outage, it was impossible to redirect the trains with PRB coal to Baldwin quickly. Thus, DMG performed the planned train dumper maintenance as had been scheduled. After completion of the train coal dumper maintenance outage on November 9, several trains of PRB coal were delivered before November 16.

Due to the low inventory of PRB coal, the station needed to take coal from its coal pile. On November 10, 2017, DMG unknowingly tapped residual, high sulfur Illinois coal remaining in the coal pile base, which was fed into Baldwin Unit 1's coal bunker.² The first indication of the presence of high sulfur coal

² Illinois high sulfur coal has not been delivered to the station since circa year 2000.

occurred at 2:00 pm on November 10, 2017 when the SO_2 CEMS indicated an increase in SO_2 concentration at the stack. In an effort to avoid exceeding the SO_2 30-day rolling average limit, DMG shut down Baldwin Unit 1 on November 11, 2017 at 6:56 pm. The Unit remained off-line until low sulfur PRB coal could be delivered to the station by train and loaded directly to the Unit 1 coal bunkers, i.e., new train deliveries of PRB coal were the only way to ensure that only PRB coal would be loaded to the coal bunkers. Because it was apparent that higher sulfur coal was present in the coal bunker (and because there is no reasonable means to remove coal from the bunker other than through the normal method of combusting the coal) and using its best efforts to prevent exceedance of the SO_2 30-Day Rolling Average Emission Rate limit upon restart of the Unit, DMG installed a supplemental SO_2 control system, i.e., temporary Dry Sorbent Injection (DSI), before resuming Unit 1 operation. The temporary DSI system was intended to lower the SO_2 concentration entering the SDA upon startup. DMG delayed startup of Unit 1 several days until the DSI system was installed and operational.

DMG took coal from areas of the station's coal pile that were believed to contain PRB coal. During the train car dumper maintenance outage, the SO₂ emissions were in the normal operating range. The higher SO₂ ppm readings began on November 10, one day after the completion of the dumper outage. When elevated SO₂ readings persisted into the next day (November 11), DMG shut down Unit 1 and the Unit remained out of service until enough newly delivered PRB coal was available at the station and the temporary DSI system was installed and operational.

The second force majeure event involved equipment Malfunctions that delayed timely start-up of the SDA system when Unit 1 returned to service on November 16. These Malfunctions prevented the boiler from timely reaching the proper temperature for SDA operation. Specifically, the turbine 1A and 1B Boiler Feed Pumps (BFP) failed to start during startup of the SDA. More specifically, an attempt to start the 1A BFP failed at 8:47 am and an attempt to start the 1B BFP failed at 8:59 am. Repairs to the 1A BFP relay delayed the SDA start by 82 minutes and repairs to the 1B BFP governor valves and the relay resulted in a further delay of SDA startup by 23 minutes.

The failure of the BFPs to operate in their normal or usual manner was sudden, infrequent and not reasonably preventable; the failure was not caused by poor maintenance or careless operation. A BFP Malfunction is a rare occurrence and none has occurred at Baldwin in the last few years. DMG has included BFP maintenance in recent maintenance outages at Baldwin (the BFPs are refurbished on a regular cycle to ensure reliable operation; the 1B and 1A BFPs were most recently refurbished in 2014) and the BFPs are also otherwise routinely maintained to ensure reliable operations. The total delay of the SDA startup due to the BFP Malfunctions was 105 minutes. The SDA was brought into service at 1:00 pm when the appropriate load and temperature was attained. Because these BFP Malfunctions delayed the SDA startup by 105 minutes, SO_2 emissions during the 105 minutes were higher than they would have been during a normal SDA start-up (despite operation of the temporary DSI system during these 105 minutes).

It should be emphasized that Unit 1's <u>actual</u> SO₂ emissions rate (versus the reported SO₂ emissions rate) did not exceed the Consent Decree 0.100 lb/mmBtu 30-Day Rolling Average Emission Rate limit. The reported value exceeded the limit because of data substitution required by the Acid Rain Program Part 75 regulations. Specifically, Part 75 requires that any value recorded over the Full Scale Range (FSR)³ must be replaced with a value 200% of the FSR value. This substitution significantly increased

³ The assignment of a FSR to an analyzer is required in Appendix A of 40 CFR Part 75. It does not reflect the physical ability of the analyzer to measure a value above the FSR. Most modern analyzers have a large range of linear measurement abilities, which often exceeds the regulatory assignment of a FSR. For example, the

the calculated amount of SO_2 that was included in Unit 1's reportable 30-day SO_2 rolling average. If actual values are used to calculate the 30-day rolling average, then the Consent Decree SO_2 limit is not exceeded. See Attachment A. The table below summarizes the results of this comparison of the actual recorded data and the reported data.

Baldwin Unit 1 (as at Nov. 16, 2017)	Heat Input 30- day (mmBtu)	SO₂ lbs 30-day	SO₂ Emissions Rate 30-day Rolling Average (lb/mmbtu)
Reported data calculated with substitution per 40 CFR Part 75	3,212,856	324,490	0.101
Actual recorded CEM data (no substitution)	3,212,856	307,173	0.096

The difference between the Part 75 substituted and reported SO_2 lbs and the actual recorded CEM SO_2 lbs emitted is 17,317 lbs. These extra 17,317 lbs were not released to the environment; rather, these extra SO_2 lbs included in the reportable 30-day rolling average emissions rate only reflect how 40 CFR Part 75, Appendix A section 2.1.1.5(b)(1)⁴ requires calculation of the hourly average. Because of this Part 75 requirement, the reportable SO_2 30-day rolling average value for Baldwin Unit 1 was higher than the actual SO_2 value recorded by the CEM. Specifically, during the period when high sulfur coal was burned, 304 minutes of SO_2 values were replaced with 200% of the FSR. See Attachment B. The FSR of the SO_2 analyzer is 360 ppm. Thus, the value used in the calculations for those 304 minutes was 720 ppm. There were 10 hours during the period when high sulfur coal was burned that used the substituted value of 720 ppm in the hourly average. See Attachment C. That substitution results in the extra 17,317 pounds of SO_2 included in the calculation of the 30-day rolling average.

In addition, due to the BFP malfunctions, SO_2 emissions during the 105 minute delay in SDA startup were higher than they would have been during a normal SDA start-up. Specifically, during the hours 11:00 am and 12:00 pm on November 16, the FSR was exceeded during 28 minutes. If the startup of the SDA had proceeded normally, the SO_2 emissions would have been controlled below the FSR, avoiding the required substitution of the high values. Without the required substitution, the 30-day rolling average SO_2 value would be below the Consent Decree limit. The SO_2 30-day rolling average with the two hours prior (i.e., 11:00 am and 12:00 pm) to the SDA startup excluded from the calculation is 0.099 lb/mmBtu. See Attachment D. Thus, but for the Malfunctions of the BFPs that occurred during startup of the SDA on November 16, Unit 1's 30-Day Rolling Average Emission Rate for SO_2 would not have exceeded the 0.100 lb/mmBtu limit.

(ii) Measures Taken by DMG to Prevent and Minimize the Violation

regulation may require an FSR of 100 ppm but the analyzer is actually capable of measuring up to 3000 ppm with excellent curve correlation coefficients.

⁴ The Clean Air Markets Division's <u>Part 75 Emission Monitoring Policy Manual</u> (2013) question 9.21 explains how to calculate the hourly average when the FSR is exceeded in accordance with Appendix A section 2.1.1.5.

⁵ Hourly average is calculated from the valid one minute data using 720 ppm (twice the FSR of 360 ppm) for those minutes that exceed the FSR.

⁶ The actual recorded data (prior to substitution) calculate a value below the 30-day rolling average limit. See Attachment A.

DMG used its best efforts to avoid the possibility of an exceedance and to minimize the exceedance. As explained above, in an effort to avoid exceeding the SO_2 30-Day Rolling Average Emissions limit, DMG shut down Unit 1 on November 11, 2017. The Unit remained off-line until low sulfur PRB coal could be delivered to the station by train and loaded directly to the Unit 1 coal bunkers. Furthermore, before restarting the Unit, DMG acquired and installed a temporary DSI system and operated the DSI system during the Unit 1 restart in an effort to keep the SO_2 30-Day Rolling Average Emission Rate value below the 0.100 lb/mmBtu limit. See Attachment E. The cost of installing and operating the DSI system was more than \$142,000, not including labor installation costs. In short, DMG used its best efforts to avoid the violation and to minimize the extent of the violation.

In addition, to avoid the potential for future recurrence of excess SO_2 emissions due to use of residual, historic high sulfur coal in the station's coal pile, DMG performed a detailed sampling survey of the coal pile base to determine the extent and location of any remaining areas of high sulfur coal. The mapping will be used to avoid those areas during future coal usage and aid in the removal of the high sulfur coal in a controlled fashion by blending low volumes with the PRB coal supply.

(iii) Rationale for Attributing the Violation to a Force Majeure Event

Failure of the railroad culvert was a sudden, infrequent and not reasonably preventable failure of equipment to operate in normal or usual manner and, together with inability to reschedule PRB rail deliveries, caused low coal inventory that was beyond the control of DMG. In addition, the failure of BFPs to start during restart of the Baldwin Unit 1 SDA on November 16, 2017 were sudden, infrequent, and not reasonably preventable failures of equipment to operate in a normal or usual manner. The Malfunctions were not caused, in whole or in part, by poor maintenance or careless operation. DMG also used its best efforts (e.g., shutting down the Unit, installing a temporary DSI system, making prompt repairs), to avoid the violation and to minimize the violation.

The events constitute Force Majeure Events caused by circumstances beyond the control of DMG. Taken together, and the Malfunctions of the BFPs during the November 16 startup of the Unit 1 SDA by itself, prevented DMG from complying with the Baldwin Unit 1 30-Day Rolling Average Emission Rate for SO₂ for the 30-day period ending on November 16, 2017.

* * * *

December 6, 2017 Page 6 of 7

If you have any questions or need further data regarding this notification, please contact Rick Diericx, Managing Director, Environmental Compliance, at 618-343-7761.

This information was prepared either by me or under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my evaluation, or the direction and my inquiry of the person(s) who manage the system, or the person(s) directly responsible for gathering the information, I hereby certify under penalty of law that, to the best of my knowledge and belief, this information is true, accurate, and complete. I understand that there are significant penalties for submitting false, inaccurate, or incomplete information to the United States.

Sincerely,

James R. Kipp

Vice President and General Manager Plant Operations MISO

Dynegy Midwest Generation, LLC

Enclosures

cc: Executive Vice President, General Counsel & Chief Compliance Officer Dynegy Inc.

601 Travis Street, Suite 1400

Houston, Texas 77002

December 6, 2017 Page 7 of 7

Distribution List:

Director, Air Enforcement Division
Office of Enforcement and Compliance Assurance
U.S. Environmental Protection Agency
Ariel Rios South Building [2242A]
1200 Pennsylvania Avenue, N.W., Suite 1119
Washington, DC 20460

Regional Administrator U.S. EPA- Region 5 77 W. Jackson St. Chicago, IL 60604

Sam Borries, Acting Chief, OECA U.S. EPA- Region 5 77 W. Jackson St. - AE-17J Chicago, IL 60604

Bureau Chief Bureau of Air Illinois Environmental Protection Agency 1021 North Grand Avenue East, P.O. Box 19276 Springfield, Illinois 62794 9276

Bureau Chief Environmental Bureau Illinois Attorney General's Office 500 South Second Street Springfield, Illinois 62706

Executive Director Environmental Law and Policy Center of the Midwest 35 East Wacker Dr. Suite 1300 Chicago, Illinois 60601-2110

Attachment A

Reported Reported SO2 SO2 30 Da	Actual 30Day tu SO2 lbs lb/mmBtu 77 9609 77 9545
Day (mmBtu) Lbs/day Lb/mmBt 10/12/2017 127545 9609 0.07 10/13/2017 125704 9545 0.07 10/14/2017 135973 10026 0.07 10/15/2017 123475 9583 0.07 10/16/2017 129530 9791 0.07 10/17/2017 118232 8567 0.07 10/18/2017 121255 8648 0.07 10/19/2017 131018 13937 0.07 10/20/2017 1409 461 0.07 10/22/2017 2428 499 0.07 10/23/2017 115232 15702 0.08 10/24/2017 122619 9508 0.08 10/25/2017 137545 10593 0.08 10/26/2017 129120 12554 0.08 10/27/2017 2730 971 0.08	77 9545 lb/mmBtu
10/12/2017 127545 9609 0.07 10/13/2017 125704 9545 0.07 10/14/2017 135973 10026 0.07 10/15/2017 123475 9583 0.07 10/16/2017 129530 9791 0.07 10/17/2017 118232 8567 0.07 10/18/2017 121255 8648 0.07 10/19/2017 131018 13937 0.07 10/20/2017 1409 461 0.07 10/22/2017 2428 499 0.07 10/23/2017 115232 15702 0.08 10/24/2017 122619 9508 0.08 10/25/2017 137545 10593 0.08 10/26/2017 129120 12554 0.08 10/27/2017 2730 971 0.08	77 9609 77 9545
10/13/2017 125704 9545 0.07 10/14/2017 135973 10026 0.07 10/15/2017 123475 9583 0.07 10/16/2017 129530 9791 0.07 10/17/2017 118232 8567 0.07 10/18/2017 121255 8648 0.07 10/19/2017 131018 13937 0.07 10/20/2017 1409 461 0.07 10/22/2017 2428 499 0.07 10/23/2017 115232 15702 0.08 10/24/2017 122619 9508 0.08 10/25/2017 137545 10593 0.08 10/26/2017 129120 12554 0.08 10/27/2017 2730 971 0.08	77 9545
10/13/2017 125704 9545 0.07 10/14/2017 135973 10026 0.07 10/15/2017 123475 9583 0.07 10/16/2017 129530 9791 0.07 10/17/2017 118232 8567 0.07 10/18/2017 121255 8648 0.07 10/19/2017 131018 13937 0.07 10/20/2017 1409 461 0.07 10/22/2017 2428 499 0.07 10/23/2017 115232 15702 0.08 10/24/2017 122619 9508 0.08 10/25/2017 137545 10593 0.08 10/26/2017 129120 12554 0.08 10/27/2017 2730 971 0.08	77 9545
10/14/2017 135973 10026 0.07 10/15/2017 123475 9583 0.07 10/16/2017 129530 9791 0.07 10/17/2017 118232 8567 0.07 10/18/2017 121255 8648 0.07 10/19/2017 131018 13937 0.07 10/20/2017 1409 461 0.07 10/22/2017 2428 499 0.07 10/23/2017 115232 15702 0.08 10/24/2017 122619 9508 0.08 10/25/2017 137545 10593 0.08 10/26/2017 129120 12554 0.08 10/27/2017 2730 971 0.08	
10/16/2017 129530 9791 0.07 10/17/2017 118232 8567 0.07 10/18/2017 121255 8648 0.07 10/19/2017 131018 13937 0.07 10/20/2017 1409 461 0.07 10/22/2017 2428 499 0.07 10/23/2017 115232 15702 0.08 10/24/2017 122619 9508 0.08 10/25/2017 137545 10593 0.08 10/26/2017 129120 12554 0.08 10/27/2017 2730 971 0.08	77 10026
10/17/2017 118232 8567 0.07 10/18/2017 121255 8648 0.07 10/19/2017 131018 13937 0.07 10/20/2017 1409 461 0.07 10/22/2017 2428 499 0.07 10/23/2017 115232 15702 0.08 10/24/2017 122619 9508 0.08 10/25/2017 137545 10593 0.08 10/26/2017 129120 12554 0.08 10/27/2017 2730 971 0.08	77 9583
10/18/2017 121255 8648 0.07 10/19/2017 131018 13937 0.07 10/20/2017 1409 461 0.07 10/22/2017 2428 499 0.07 10/23/2017 115232 15702 0.08 10/24/2017 122619 9508 0.08 10/25/2017 137545 10593 0.08 10/26/2017 129120 12554 0.08 10/27/2017 2730 971 0.08	77 9791
10/19/2017 131018 13937 0.07 10/20/2017 1409 461 0.07 10/22/2017 2428 499 0.07 10/23/2017 115232 15702 0.08 10/24/2017 122619 9508 0.08 10/25/2017 137545 10593 0.08 10/26/2017 129120 12554 0.08 10/27/2017 2730 971 0.08	77 8567
10/20/2017 1409 461 0.07 10/22/2017 2428 499 0.07 10/23/2017 115232 15702 0.08 10/24/2017 122619 9508 0.08 10/25/2017 137545 10593 0.08 10/26/2017 129120 12554 0.08 10/27/2017 2730 971 0.08	77 8648
10/22/2017 2428 499 0.07 10/23/2017 115232 15702 0.08 10/24/2017 122619 9508 0.08 10/25/2017 137545 10593 0.08 10/26/2017 129120 12554 0.08 10/27/2017 2730 971 0.08	78 13937
10/23/2017 115232 15702 0.08 10/24/2017 122619 9508 0.08 10/25/2017 137545 10593 0.08 10/26/2017 129120 12554 0.08 10/27/2017 2730 971 0.08	78 461
10/24/2017 122619 9508 0.08 10/25/2017 137545 10593 0.08 10/26/2017 129120 12554 0.08 10/27/2017 2730 971 0.08	78 499
10/25/2017 137545 10593 0.08 10/26/2017 129120 12554 0.08 10/27/2017 2730 971 0.08	80 15702
10/26/2017 129120 12554 0.08 10/27/2017 2730 971 0.08	9508
10/27/2017 2730 971 0.08	81 10593
	81 12554
10/20/2017 17555 6020 0.00	971
10/29/2017 1/555 6059 0.00	83 6039
10/30/2017 129708 13881 0.08	85 13881
10/31/2017 125432 8696 0.08	
11/1/2017 132531 8718 0.08	84 8718
11/2/2017 135589 8965 0.08	84 8965
11/3/2017 131389 8683 0.08	83 8683
11/4/2017 133362 8282 0.08	83 8282
11/5/2017 101113 6406 0.08	82 6406
11/6/2017 119509 6934 0.08	
11/7/2017 133893 7458 0.07	79 7458
11/8/2017 132160 7040 0.07	
11/9/2017 122223 6369 0.07	
11/10/2017 118552 37691 0.08	86 30859
11/11/2017 76226 34104 0.09	
11/16/2017 79803 25234 0.10	
11/17/2017 137192 1159 0.09	98 1159

Attachment B

	S	279	502 5014
Count	Date and Tim		SO2 PPM
1	Nov 10 2017		720
2	Nov 10 2017		720
3	Nov 10 2017	3:24PM	720
4	Nov 10 2017	3:25PM	720
5	Nov 10 2017	3:26PM	720
6	Nov 10 2017	3:27PM	720
7	Nov 10 2017	3:28PM	720
8	Nov 10 2017	3:29PM	720
9	Nov 10 2017		720
10	Nov 10 2017	3:31PM	720
11	Nov 10 2017	3:32PM	720
12	Nov 10 2017	3:33PM	720
13	Nov 10 2017	3:34PM	720
14	Nov 10 2017	3:35PM	720
15	Nov 10 2017		720
16	Nov 10 2017	3:37PM	720
17	Nov 10 2017	3:38PM	720
18	Nov 10 2017	3:39PM	720
19	Nov 10 2017	3:40PM	720
20	Nov 10 2017	3:41PM	720
21	Nov 10 2017	3:42PM	720
22	Nov 10 2017	3:43PM	720
23	Nov 10 2017	3:44PM	720
24	Nov 10 2017	3:45PM	720
25	Nov 10 2017	3:46PM	720
26	Nov 10 2017	3:47PM	720
27	Nov 10 2017	3:48PM	720
28	Nov 10 2017	3:49PM	720
29	Nov 10 2017	3:50PM	720
30	Nov 10 2017	3:55PM	720
31	Nov 10 2017	3:56PM	720
32	Nov 10 2017	3:57PM	720
33	Nov 10 2017	3:58PM	720
34	Nov 10 2017	3:59PM	720
35	Nov 10 2017	4:00PM	720
36	Nov 10 2017	4:01PM	720
37	Nov 10 2017	4:02PM	720
38	Nov 10 2017	4:03PM	720
39	Nov 10 2017	4:04PM	720
40	Nov 10 2017	4:05PM	720
41	Nov 10 2017	4:06PM	720
42	Nov 10 2017		720
43	Nov 10 2017		720
44	Nov 10 2017		720
45	Nov 10 2017		720
46	Nov 10 2017		720
max.5030	A CONTRACTOR OF THE PARTY OF TH		

47	Nov 10 2017 4:12PM	720
48	Nov 10 2017 4:13PM	720
49	Nov 10 2017 4:14PM	720
50	Nov 10 2017 4:15PM	720
51	Nov 10 2017 4:16PM	720
52	Nov 10 2017 4:17PM	720
53	Nov 10 2017 4:18PM	720
54	Nov 10 2017 4:19PM	720
55	Nov 10 2017 4:20PM	720
56	Nov 10 2017 4:21PM	720
57	Nov 10 2017 4:22PM	720
58	Nov 10 2017 4:23PM	720
59	Nov 10 2017 4:24PM	720
60	Nov 10 2017 4:25PM	720
61	Nov 10 2017 4:26PM	720
62	Nov 10 2017 4:27PM	720
63	Nov 10 2017 4:28PM	720
64	Nov 10 2017 4:29PM	720
65	Nov 10 2017 4:30PM	720
66	Nov 10 2017 4:31PM	720
67	Nov 10 2017 4:32PM	720
68	Nov 10 2017 4:33PM	720
69	Nov 10 2017 4:34PM	720
70	Nov 10 2017 4:35PM	720
71	Nov 10 2017 4:36PM	720
72	Nov 10 2017 4:37PM	720
73	Nov 10 2017 4:38PM	720
74	Nov 10 2017 4:39PM	720
75	Nov 10 2017 4:40PM	720
76	Nov 10 2017 4:41PM	720
77	Nov 10 2017 4:42PM	720
78	Nov 10 2017 4:43PM	720
79	Nov 10 2017 4:44PM	720
80	Nov 10 2017 4:45PM	720
81	Nov 10 2017 4:46PM	720
82	Nov 10 2017 4:47PM	720
83	Nov 10 2017 4:55PM	720
84	Nov 10 2017 4:56PM	720
85	Nov 10 2017 4:57PM	720
86	Nov 10 2017 4:58PM	720
87	Nov 10 2017 4:59PM	720
88	Nov 10 2017 5:00PM	720
89	Nov 10 2017 5:12PM	720
90	Nov 10 2017 5:13PM	720
91	Nov 10 2017 5:14PM	720
92	Nov 10 2017 5:15PM	720
93	Nov 10 2017 5:16PM	720

94	Nov 11 2017	2:55PM	720
95	Nov 11 2017	2:56PM	720
96	Nov 11 2017	3:01PM	720
97	Nov 11 2017	3:02PM	720
98	Nov 11 2017		720
99	Nov 11 2017		720
100	Nov 11 2017		720
101	Nov 11 2017		720
102	Nov 11 2017		720
103	Nov 11 2017		720
104	Nov 11 2017	3:09PM	720
105	Nov 11 2017	3:10PM	720
106	Nov 11 2017	3:11PM	720
107	Nov 11 2017	3:12PM	720
108	Nov 11 2017	3:13PM	720
109	Nov 11 2017	3:14PM	720
110	Nov 11 2017	3:15PM	720
111	Nov 11 2017		720
112	Nov 11 2017		720
113	Nov 11 2017		720
114	Nov 11 2017		720
115	Nov 11 2017		720
116	Nov 11 2017		720
117	Nov 11 2017		720
118	Nov 11 2017		720
119	Nov 11 2017		720
120	Nov 11 2017		720
121	Nov 11 2017	3:26PM	720
122	Nov 11 2017	3:27PM	720
123	Nov 11 2017	3:28PM	720
124	Nov 11 2017	3:29PM	720
125	Nov 11 2017	3:30PM	720
126	Nov 11 2017	3:31PM	720
127	Nov 11 2017	3:32PM	720
128	Nov 11 2017		720
129	Nov 11 2017		720
130	Nov 11 2017		720
131	Nov 11 2017		720
132	Nov 11 2017		720
133	Nov 11 2017		720
134	Nov 11 2017		720
135	Nov 11 2017		720
136	Nov 11 2017		720
137	Nov 11 2017	4:24PM	720
138	Nov 11 2017	4:25PM	720
139	Nov 11 2017	4:26PM	720
140	Nov 11 2017	4:27PM	720

141	Nov 11 2017	4:28PM	720
142	Nov 11 2017	4:29PM	720
143	Nov 11 2017	4:30PM	720
144	Nov 11 2017	4:31PM	720
145	Nov 11 2017	4:32PM	720
146	Nov 11 2017	4:33PM	720
147	Nov 11 2017	4:35PM	720
148	Nov 11 2017	4:36PM	720
149	Nov 11 2017	4:37PM	720
150	Nov 11 2017	4:38PM	720
151	Nov 11 2017	4:39PM	720
152	Nov 11 2017	4:40PM	720
153	Nov 11 2017	4:41PM	720
154	Nov 11 2017	4:42PM	720
155	Nov 11 2017	4:43PM	720
156	Nov 11 2017	4:44PM	720
157	Nov 11 2017	4:45PM	720
158	Nov 11 2017	4:46PM	720
159	Nov 11 2017	4:47PM	720
160	Nov 11 2017	4:48PM	720
161	Nov 11 2017	4:49PM	720
162	Nov 11 2017	4:50PM	720
163	Nov 11 2017	4:55PM	720
164	Nov 11 2017	4:56PM	720
165	Nov 11 2017	4:57PM	720
166	Nov 11 2017	4:58PM	720
167	Nov 11 2017	4:59PM	720
168	Nov 11 2017	5:00PM	720
169	Nov 11 2017	5:01PM	720
170	Nov 11 2017	5:02PM	720
171	Nov 11 2017	5:03PM	720
172	Nov 11 2017	5:04PM	720
173	Nov 11 2017	5:05PM	720
174	Nov 11 2017	5:06PM	720
175	Nov 11 2017	5:07PM	720
176	Nov 11 2017	5:08PM	720
177	Nov 11 2017	5:09PM	720
178	Nov 11 2017	5:10PM	720
179	Nov 11 2017	5:11PM	720
180	Nov 11 2017	5:12PM	720
181	Nov 11 2017	5:13PM	720
182	Nov 11 2017	5:14PM	720
183	Nov 11 2017	5:15PM	720
184	Nov 11 2017	5:16PM	720
185	Nov 11 2017	5:17PM	720
186	Nov 11 2017	5:18PM	720
187	Nov 11 2017	5:19PM	720

188	Nov 11 2017	5:20PM	720
189	Nov 11 2017	5:21PM	720
190	Nov 11 2017	5:22PM	720
191	Nov 11 2017	5:23PM	720
192	Nov 11 2017		720
193	Nov 11 2017		720
194	Nov 11 2017		720
195	Nov 11 2017		720
196	Nov 11 2017		720
197	Nov 11 2017		720
198	Nov 11 2017	5:30PM	720
199	Nov 11 2017	5:31PM	720
200	Nov 11 2017	5:32PM	720
201	Nov 11 2017	5:33PM	720
202	Nov 11 2017	5:34PM	720
203	Nov 11 2017	5:35PM	720
204	Nov 11 2017	5:36PM	720
205	Nov 11 2017	5:37PM	720
206	Nov 11 2017		720
207	Nov 11 2017		720
208	Nov 11 2017		720
209	Nov 11 2017		720
210	Nov 11 2017		720
			720
211	Nov 11 2017		
212	Nov 11 2017		720
213	Nov 11 2017		720
214	Nov 11 2017		720
215	Nov 11 2017		720
216	Nov 11 2017		720
217	Nov 11 2017		720
218	Nov 11 2017	5:50PM	720
219	Nov 11 2017	5:55PM	720
220	Nov 11 2017	5:56PM	720
221	Nov 11 2017	5:57PM	720
222	Nov 11 2017	5:58PM	720
223	Nov 11 2017	5:59PM	720
224	Nov 11 2017	6:00PM	720
225	Nov 11 2017	6:01PM	720
226	Nov 11 2017		720
227	Nov 11 2017		720
228	Nov 11 2017		720
229	Nov 11 2017		720
	Nov 11 2017 Nov 11 2017		720
230			
231	Nov 11 2017		720
232	Nov 11 2017		720
233	Nov 11 2017		720
234	Nov 11 2017	P:TOPM	720

235	Nov 11 2017	6:11PM	720
236	Nov 11 2017	6:12PM	720
237	Nov 11 2017	6:13PM	720
238	Nov 11 2017	6:14PM	720
239	Nov 11 2017	6:15PM	720
240	Nov 11 2017	6:16PM	720
241	Nov 11 2017	6:17PM	720
242	Nov 11 2017	6:18PM	720
243	Nov 11 2017	6:19PM	720
244	Nov 11 2017	6:20PM	720
245	Nov 11 2017	6:21PM	720
246	Nov 11 2017	6:22PM	720
247	Nov 11 2017	6:23PM	720
248	Nov 11 2017	6:24PM	720
249	Nov 11 2017	6:25PM	720
250	Nov 11 2017	6:26PM	720
251	Nov 11 2017	6:27PM	720
252	Nov 11 2017	6:28PM	720
253	Nov 11 2017	6:29PM	720
254	Nov 11 2017	6:30PM	720
255	Nov 11 2017	6:31PM	720
256	Nov 11 2017	6:32PM	720
257	Nov 11 2017	6:33PM	720
258	Nov 11 2017	6:34PM	720
259	Nov 11 2017	6:35PM	720
260	Nov 11 2017	6:36PM	720
261	Nov 11 2017	6:37PM	720
262	Nov 11 2017	6:38PM	720
263	Nov 11 2017	6:39PM	720
264	Nov 11 2017	6:40PM	720
265	Nov 11 2017	6:41PM	720
266	Nov 11 2017	6:42PM	720
267	Nov 11 2017	6:43PM	720
268	Nov 11 2017	6:44PM	720
269	Nov 11 2017	6:45PM	720
270	Nov 11 2017	6:46PM	720
271	Nov 11 2017	6:47PM	720
272	Nov 11 2017	6:48PM	720
273	Nov 11 2017	6:49PM	720
274	Nov 11 2017	6:50PM	720
275	Nov 11 2017	6:55PM	720
276	Nov 11 2017	6:56PM	720
277	Nov 16 2017	11:55AM	720
278	Nov 16 2017	12:16PM	720
279	Nov 16 2017	12:17PM	720
280	Nov 16 2017	12:23PM	720
281	Nov 16 2017	12:24PM	720

i i

282	Nov 16 2017 12:25PM	720
283	Nov 16 2017 12:26PM	720
284	Nov 16 2017 12:27PM	720
285	Nov 16 2017 12:28PM	720
286	Nov 16 2017 12:29PM	720
287	Nov 16 2017 12:30PM	720
288	Nov 16 2017 12:31PM	720
289	Nov 16 2017 12:32PM	720
290	Nov 16 2017 12:33PM	720
291	Nov 16 2017 12:34PM	720
292	Nov 16 2017 12:35PM	720
293	Nov 16 2017 12:36PM	720
294	Nov 16 2017 12:37PM	720
295	Nov 16 2017 12:38PM	720
296	Nov 16 2017 12:39PM	720
297	Nov 16 2017 12:40PM	720
298	Nov 16 2017 12:44PM	720
299	Nov 16 2017 12:45PM	720
300	Nov 16 2017 12:46PM	720
301	Nov 16 2017 12:47PM	720
302	Nov 16 2017 12:55PM	720
303	Nov 16 2017 12:56PM	720
304	Nov 16 2017 12:57PM	720

*

Attachment C

Date and Time	SO2 ppm
Nov 10 2017 3:00PM	551.6
Nov 10 2017 4:00PM	700.5
Nov 10 2017 5:00PM	353.1
Nov 11 2017 2:00PM	144.9
Nov 11 2017 3:00PM	596.5
Nov 11 2017 4:00PM	511.7
Nov 11 2017 5:00PM	720
Nov 11 2017 6:00PM	720
Nov 16 2017 11:00AM	223.1
Nov 16 2017 12:00PM	518.5

			N V	
			Heat Input	
			(mmBtu -	Hourly SO2 lbs
	Heat Input	Hourly SO2	malfunction	(malfunction
	(mmBtu)	lbs	excluded)	excluded)
Nov 16 2017 12:00AM	224	119	224	119
Nov 16 2017 1:00AM	415	123	415	123
Nov 16 2017 2:00AM	564	51	564	51
Nov 16 2017 3:00AM	719	347	719	347
Nov 16 2017 4:00AM	846	272	846	272
Nov 16 2017 5:00AM	886	226	886	226
Nov 16 2017 6:00AM	1629	667	1629	667
Nov 16 2017 7:00AM	2045	985	2045	985
Nov 16 2017 8:00AM	2203	1967	2203	1967
Nov 16 2017 9:00AM	2258	2085	2258	2085
Nov 16 2017 10:00AM	2409	1210	2409	1210
Nov 16 2017 11:00AM	3181	2306	0	0
Nov 16 2017 12:00PM	3634	5872	0	0
Nov 16 2017 1:00PM	3920	2664	3920	2664
Nov 16 2017 2:00PM	4567	2163	4567	2163
Nov 16 2017 3:00PM	5261	2309	5261	2309
Nov 16 2017 4:00PM	5377	413	5377	413
Nov 16 2017 5:00PM	5440	77	5440	77
Nov 16 2017 6:00PM	5622	122	5622	122
Nov 16 2017 7:00PM	5741	158	5741	158
Nov 16 2017 8:00PM	5724	437	5724	437
Nov 16 2017 9:00PM	5721	566	5721	566
Nov 16 2017 10:00PM	5722	52	5722	52
Nov 16 2017 11:00PM	5697	46	5697	46
Daily Sum	79,803	25,234	72,988	17,056
30-Day SO2 Lbs	324,490		316,312	
30-Day Heat Input	3,212,856		3,206,041	
30-Day Rolling Avg.	0.101		0.099	



425 Apollo Drive, Lino Lakes, MN 55014 Phone: 651-780-8600 Fax: 651-780-4400

SERVICE TRIP REPORT

Nol-Tec Service Technician fills out this report and submits to Customer and Executive Administrator.

Nol-Tec Contract No. 60	46	Customer PO N	lo.
Customer Name: Dyneg	y Baldwin		
Service Location: Baldw	in IL		
On-Site Customer Contact:	Chris Moorman		
Phone: 618-785-3348	Fax:	Email:	Chris.Moorman@dynegy.com
Dates of Service: 11.15-	1117.2017		
Service Technician: John D	Draper, Ashley Richt	er	
Caulament Convised			

Equipment Serviced

Nol-Tec Unit 13 Test system

Reason for Service Call

Emergency Injection of Hydrated Lime for startup of the Unit!

Explanation of Services Performed

Emergency Injection of Hydrated Lime for startup of the Unit!

The system was tied into the ACI system and conveyed into the top of the duct. From two 4" convey lines to four 3" injection points.

Arrived on site early evening and met with the management team and operations personnel to discuss requirements and timeline.

Inspected convey line installed by the customer to ensure best routing of hoses.

Noted the convey line had 18 bends in the system which causes a higher back pressure. Found issues with the analogue inputs for the blower pressure and line pressure, briefly troubleshot and decided we would use truck gauges instead.

Demonstrated the operation of conveying from the truck to the current operators on shift. Found the convey line connection had a rubber boot which came apart under pressure, site welded the two metal fittings together to remove this weak point in the system.

The equipment was run by site personnel with Guidance from Nol-Tec personnel.

We tried to maintain a convey line pressure of 8-12 PSI, with a head pressure on the tank of 2 Psi above convey line pressure.

I believe the startup time was just after midnight on the 16th and ran until midafternoon, It is assumed the truck holds 48000lbs.

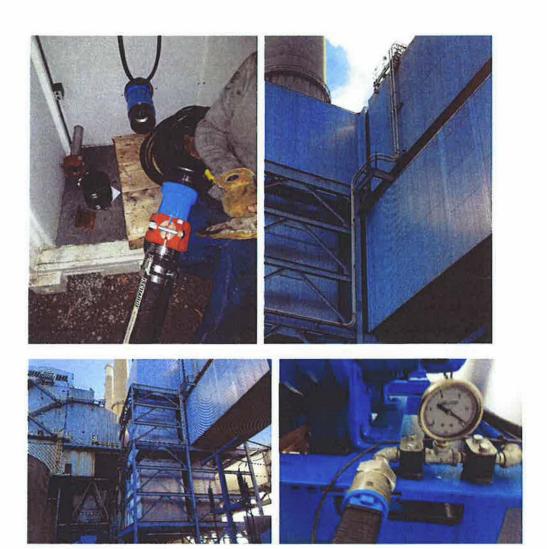
The second truck started up by 4.30ish and ran until 2.45pm Friday. Again I assume 48000lbs of product.

Average for the first truck was 3000lbs per/hr.

The second truck average was just over 2000lbs per/hr, however we found that not much was used overnight and we raised the conveying amount on Friday to probably 3500-4000lbs per hour to purge the truck.

The third truck was not used.

See attached pics.



<u>Current Status of Equipment</u>
On site ready for other testing for viability study to make improvements or additions to the existing systems in place.

Notes for Accounting